

CLAIMS

What is claimed is:

1. A microphone assembly comprising:
a microphone housing unit having a cover and a base;
a preamplifier circuit assembly fixedly attached to the base and
protected by the cover, the preamplifier circuit assembly
having at least one terminal unprotected by the cover;
a radio frequency interference suppression device electrically
coupled to the preamplifier circuit, wherein the radio
frequency interference suppression device includes:
at least one internal ground electrically coupled to the at
least one terminal, and wherein the at least one
internal ground provides a ground path between the
cover and the base.
2. The microphone assembly of claim 1 further comprising:
a mounting frame fixedly attached to the base and adapted to
support the preamplifier circuit assembly.
3. The microphone assembly of claim 2, wherein the preamplifier
circuit assembly is fixedly attached to the mounting frame using an
adhesive.
4. The microphone assembly of claim 3, wherein the adhesive is a
conductive material.
5. The microphone assembly of claim 2, wherein the adhesive
includes a plurality of metallic flakes suspended therein.

6. The microphone assembly of claim 1, wherein the at least one internal ground includes a first internal ground communicatively coupled to the base, and a second internal ground communicatively coupled to the cover.
7. A microphone assembly comprising:
 - a microphone housing base adapted to support a diaphragm assembly within an interior;
 - a mounting frame fixedly attached to the microphone housing base and adapted to support a preamplifier circuit assembly having an external ground, wherein the preamplifier circuit assembly and the diaphragm assembly are electrically connected;
 - a microphone housing cover adapted to enclose the preamplifier circuit assembly;
 - a first internal ground electrically coupled to the microphone housing cover and the external ground;
 - a second internal ground electrically coupled to the microphone housing base and the first internal ground, wherein the first internal ground and the second internal ground cooperate with the microphone housing base and the microphone housing cover to suppress radio frequency interference.
8. The microphone assembly of claim 6, wherein the preamplifier circuit assembly is electrically connected to the mounting frame using an adhesive.
9. The microphone assembly of claim 8, wherein the adhesive is a conductive material.
10. The microphone assembly of claim 9, wherein the adhesive includes a plurality of metallic flakes suspended therein.

11. A method of constructing a microphone assembly comprising:
providing a microphone housing having a base and a complimentary cover;
securing a preamplifier circuit assembly having an external ground to a mounting frame affixed adjacent to the base;
securing the cover adjacent to the mounting frame to partially enclose the preamplifier circuit assembly; and
providing at least one internal ground to electrically couple the housing to the external ground.
12. The method of claim 11, wherein providing the microphone housing includes providing an electrically conductive microphone housing.
13. The method of claim 11, wherein securing the preamplifier circuit assembly includes providing a conductive adhesive to secure the preamplifier circuit assembly to the mounting frame.
14. The method of claim 13, wherein providing the conductive adhesive includes suspending a plurality of metallic flakes within the adhesive.
15. The method of claim 13, wherein providing the conductive adhesive includes providing a conductive epoxy.
16. The method of claim 11, wherein providing at least one internal ground includes providing a first internal ground electrically coupled to the cover.
17. The method of claim 16, wherein providing at least one internal ground includes providing a second internal ground electrically coupled to the base.

18. The method of claim 11, wherein providing at least one internal ground includes creating a short-circuit between the housing and the at least one internal ground to suppress the radio frequency interference.